
Memorandum

The City of Traverse City
Engineering Department



TO: Timothy J. Lodge, P.E., City Engineer
FROM: John Zarafonitis, Seasonal Engineering Aide
DATE: Tuesday, August 5, 2014
SUBJECT: 7 Day Speed Study of S. East Bay Blvd., 400 Block at Chippewa St.

City Engineering performed an on-site 7 day speed count beginning Friday, July 18, 2014 at 10 am until Friday, July 25, 2014 at 11 am on the 400 block of S. East Bay Blvd. This memo is to formalize City Engineering's initial findings and observations with regard to the speeds of vehicles on the 400 block of S. E. Bay Blvd.

The data was gathered using a Jamar Radar Recorder which collected traffic data, including vehicle speed, for each lane of traffic (northbound and southbound). This information was then analyzed and the data for each lane compiled into one report, regardless of direction, using TraxPro. The TraxPro report organized the speeds of the vehicles into groups based on 5 mile per hour increments, starting with 0-15 miles per hour. The report shows how many vehicles were within the specified speed range during the time indicated by the report.

During the 7 day study, 10,772 vehicles were recorded on this section of S. East Bay Blvd. with about 58 percent of the vehicles traveling between 20 and 29 miles per hour. The average speed of vehicles was 23 miles per hour. 6,181 of these vehicles, about 57 percent, were recorded going speeds below the posted speed limit of 25 miles per hour. The total percentage of enforceable violations was about 9 percent.

A 7 day speed study was done on this section of S. E. Bay Blvd. before the shoulders were striped from October 28, 2013 until November 4, 2013. The average speed during this time period was 24 miles per hour. 7,177 vehicles were recorded with their 10 mile per hour pace speed being 21 to 30 miles per hour. Of the 7,177 vehicles, 4,025 of them, about 56 percent, were recorded going speeds below the posted speed limit of 25 miles per hour.

The post-striping average speed is one mile per hour lower than the pre-striping average speed. Also, the pace speed decreased by one mile per hour, and the percentage of vehicles driving under the posted speed limit was increased by one percent.

Post-Striping Summary:

- | | |
|--|-----------|
| • Speed Limit: | 25 mph |
| • Number of Recorded Vehicles (7 days): | 10,772 |
| • Percent of Vehicles Under Speed Limit: | 57.4 % |
| • Average Speed: | 23 mph |
| • 10 Mile Per Hour Pace Speed: | 20-29 mph |
| • 85 th Percentile: | 28 mph |

Encl.: Detailed TraxPro Speed Report
East Bay Blvd., South of Chippewa Pre-Striping Speed Study Memo

SB, NB		Speed (Continued)													
Start Time	0	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
07/18/14	15	20	25	30	35	40	45	50	55	60	65	70	75	9999	
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	3	21	26	29	3	1	0	0	0	0	0	0	0	0	83
11:00	10	14	42	35	2	0	0	0	0	0	0	0	0	0	103
12 PM	7	11	54	46	13	1	0	0	0	0	0	0	0	0	132
13:00	4	22	59	28	11	0	0	0	0	0	0	0	0	0	124
14:00	5	31	45	42	13	0	0	0	0	0	0	0	0	0	136
15:00	8	13	60	28	5	0	1	0	0	0	0	0	0	0	115
16:00	5	36	53	42	7	1	0	0	0	0	0	0	0	0	144
17:00	9	22	54	41	5	0	0	0	0	0	0	0	0	0	131
18:00	4	7	35	38	4	1	0	0	0	0	0	0	0	0	89
19:00	8	8	32	27	4	1	0	0	0	0	0	0	0	0	80
20:00	15	26	37	16	6	0	0	0	0	0	0	0	0	0	100
21:00	2	12	24	14	5	0	0	0	0	0	0	0	0	0	57
22:00	0	7	12	10	2	0	0	0	0	0	0	0	0	0	31
23:00	0	1	7	2	2	0	0	0	0	0	0	0	0	0	12
Day Total	80	231	540	398	82	5	1	0	0	0	0	0	0	0	1337

SB, NB		Speed (Continued)																									
Start Time		15	16	20	21	25	26	30	31	35	36	40	41	45	46	50	51	55	56	60	61	65	70	71	75	9999	Total
07/19/14	0	15	16	20	21	25	26	30	31	35	36	40	41	45	46	50	51	55	56	60	61	65	70	71	75	9999	7
01:00	0		2	1	0	1	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	1		0	0	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
06:00	2		2	2	3	2	5	5	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
07:00	3		3	4	2	3	8	8	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
08:00	7		7	3	19	17	28	19	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62
09:00	4		13	13	17	29	20	20	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58
10:00	4		15	15	29	30	30	30	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84
11:00	4		17	17	36	29	29	29	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93
12 PM	7		17	17	48	35	35	35	12	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	119
13:00	4		20	20	62	27	27	27	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	122
14:00	9		23	23	37	40	40	40	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117
15:00	9		17	17	35	38	38	38	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108
16:00	3		17	17	43	38	38	38	17	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118
17:00	6		20	20	50	28	28	28	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108
18:00	4		23	23	31	33	33	33	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	97
19:00	11		22	22	32	20	20	20	5	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91
20:00	10		15	15	33	23	23	23	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82
21:00	3		12	12	14	12	12	12	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
22:00	2		4	4	11	11	11	11	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
23:00	0		2	2	9	6	6	6	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
Day Total	93		249	515	439	108	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1409

[illegible]

[illegible]

[illegible]

[illegible]

S. E. Bay Blvd.
(400 Block, at Chippewa St.)
Speed (Combined)

SB, NB	0	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	9999	
07/24/14	0	0	0	4	2	0	0	0	0	0	0	0	0	0	6
01:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	2	0	2	1	0	0	0	0	0	0	0	0	0	0	5
06:00	5	3	3	6	2	1	0	0	0	0	0	0	0	0	20
07:00	3	7	18	22	11	0	0	0	0	0	0	0	0	0	61
08:00	7	9	22	28	9	0	0	0	0	0	0	0	0	0	75
09:00	3	5	37	25	6	1	0	0	0	0	0	0	0	0	77
10:00	12	12	45	38	7	2	0	0	0	0	0	0	0	0	116
11:00	3	13	51	38	7	2	0	0	0	0	0	0	0	0	116
12 PM	6	8	48	46	13	0	0	0	0	0	0	0	0	0	121
13:00	3	13	50	49	7	1	0	0	0	0	0	0	0	0	123
14:00	8	12	34	34	7	2	0	0	0	0	0	0	0	0	97
15:00	10	20	42	51	10	2	1	0	0	0	0	0	0	0	136
16:00	10	17	47	41	9	1	0	0	0	0	0	0	0	0	125
17:00	6	20	41	51	21	3	0	0	0	0	0	0	0	0	142
18:00	0	4	32	41	14	1	0	0	0	0	0	0	0	0	92
19:00	8	14	21	29	7	1	0	0	0	0	0	0	0	0	80
20:00	6	6	30	28	3	1	0	0	0	0	0	0	0	0	74
21:00	5	9	18	25	2	0	0	0	0	0	0	0	0	0	59
22:00	1	6	8	12	1	0	0	0	1	0	0	0	0	0	29
23:00	1	0	2	7	5	0	0	0	0	0	0	0	0	0	15
Day Total	99	178	555	577	148	18	1	0	1	0	0	0	0	0	1577

S. E. Bay Blvd.
(400 Block, at Chippewa St.)
Speed (Combined)

SB, NB		0	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999		
07/25/14	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	5
01:00	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	1	0	3	0	2	0	0	0	0	0	0	0	0	0	0	6
04:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	9	5	3	3	1	1	0	0	0	0	0	0	0	0	0	22
07:00	6	4	14	21	4	0	0	0	0	0	0	0	0	0	0	49
08:00	3	9	29	32	7	0	1	0	0	0	0	0	0	0	0	81
09:00	4	10	35	44	9	0	0	0	0	0	0	0	0	0	0	102
10:00	5	17	35	35	6	1	0	0	0	0	0	0	0	0	0	99
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	29	45	121	140	31	2	1	0	0	0	0	0	0	0	0	369
Grand Total	646	1599	3936	3650	861	71	6	0	1	0	0	0	0	0	2	10772

15th Percentile : 14 MPH
50th Percentile : 23 MPH
85th Percentile : 28 MPH
95th Percentile : 31 MPH

Statistics
Mean Speed(Average) : 23 MPH
10 MPH Pace Speed : 20-29 MPH
Number in Pace : 6212
Percent in Pace : 57.7%
Number of Vehicles > 25 MPH : 4591
Percent of Vehicles > 25 MPH : 42.6%

Memorandum

The City of Traverse City
Engineering Department



TO: Timothy J. Lodge, P.E., City Engineer

FROM: Jessica L. Cichowski, E.I.T., Engineering Technician

DATE: November 11, 2013

SUBJECT: East Bay Blvd, South of Chippewa, Speed Count

This memo is to formalize City Engineering's initial findings and observations in regard to the speed of vehicles traveling on East Bay Blvd south of Chippewa.

City Engineering performed a week long speed count of East Bay Blvd starting at 10 am on October 28, 2013 and ending at 10 am on November 4, 2013. The data was gathered using a Jamar Traffic Counter which collected traffic data, including vehicle speed, for each lane of traffic (northbound and southbound) using two parallel tubes that are placed on the road and are connected to the device. This information was then analyzed and the data for each lane compiled into one report, regardless of direction, using TraxPro. The TraxPro speed report organized the speeds of the vehicles into groups based on 5 mile per hour increments, starting with a 0-15 mile per hour group. The report shows how many vehicles were within the specified speed range during one hour intervals as indicated by the report.

A total of 7177 vehicles traveled on East Bay Blvd during the week long speed count. About 66 percent of the vehicles on this section of East Bay Blvd were traveling between 21 and 30 miles per hour with an average speed of 24 miles per hour. 3152 of these vehicles, about 44 percent, were recorded going speeds above the posted speed limit of 25 miles per hour. However, 85 percent of the vehicles were recorded going speeds below 29 miles per hour.

Speed Summary:

- | | |
|---|-----------|
| • Speed Limit: | 25 mph |
| • Number of Recorded Vehicles (1 week): | 7177 |
| • Percent of Vehicles Over Speed Limit: | 44.0 % |
| • Average Speed: | 24 mph |
| • 10 Mile Per Hour Pace Speed: | 21-30 mph |
| • 85th Percentile: | 29 mph |
| • 95th Percentile: | 32 mph |

Encl.: Detailed TraxPro Speed Report